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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,965	09/08/2006	Karlfried Pfeifenbring	PR-88	8652

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EXAMINER
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LAVILLA, MICHAEL E

ART UNIT	PAPER NUMBER
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1784

NOTIFICATION DATE	DELIVERY MODE
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01/20/2011

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

info@lmiplaw.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/539,965	<b>Applicant(s)</b> PFEIFENBRING ET AL.	
	<b>Examiner</b> MICHAEL LA VILLA	<b>Art Unit</b> 1784	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 8 November 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-8 and 10-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-8, 10-12, and 14-16 is/are allowed.
- 6) ☒ Claim(s) 1,3 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:
2. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1, 3, and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Regarding Claim 1, it is unclear what is meant by the phrase "with an electrodeposited nickel coating on their outer side." At the top of page 8 of the Specification, applicant explains that an alloy layer forms between the electrolytic coating and the cast around copper. The plain meaning of the claim appears to be consistent with this disclosure. At the bottom of page 8 of the Specification, applicant refers to a thin alloy layer forming at the boundary surface between the tube and the surrounding casting compound. The structures are formed by applying an electrolytic nickel layer of the thicknesses claimed in Claims 3 and 13 with an alloy layer forming upon casting and cooling. The first description describes residual electrolytic nickel layer material, whereas the second description implies that the initially applied electrolytic nickel layer material has been consumed in making a diffusion alloy layer. In neither case would the disclosed initially applied nickel layer thicknesses of Claims 3 and 13 be expected to exist in the final article since no alloy layer could form were no nickel layer material consumed. Hence, it is unclear whether the claimed

electrodeposited nickel coating refers to a structural and compositional feature of the final article, describes a coating that must be present on the tube prior to casting but is not a structural and compositional feature of the resulting article, or possibly both. Applicant's traversal arguments with respect to the prior art rejection over McRae that refer to a diffusion alloy layer imply that a product-by-process limitation is being claimed contrary to the plain meaning of the limitation.

***Claim Rejections - 35 USC § 102/103***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

6. A person shall be entitled to a patent unless –

7. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

- i. Determining the scope and contents of the prior art.
- ii. Ascertaining the differences between the prior art and the claims at issue.
- iii. Resolving the level of ordinary skill in the pertinent art.
- iv. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1, 3, and 13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over McRae USPN 6,280,681. McRae teaches cooling elements formed of copper/nickel tube, which may be a copper tube material encompassed by Claim 1, in a copper casting alloy. While McRae does not teach that a nickel layer is applied to the tube, applicant teaches and argues that applicant's originally applied nickel layer is used in forming a diffusion copper/nickel alloy layer after cooling of the cast. See Specification (page 9, line 3). McRae teaches that the interface between the tube and casting alloy is a fusion and also teaches that the casting electrolytic copper material is changed to a high copper alloy. Since the tube in McRae is copper/nickel and the cast is copper, the fusion would be expected to comprise copper/nickel and have a gradient diffusion structure. Hence, it would be expected that the resulting article of McRae has a nickel/copper alloy layer at the interface between the copper/nickel tube and casting copper matrix of McRae that is indistinguishable or substantially indistinguishable from a diffusion layer formed by first nickel plating a copper/nickel tube and using a copper casting matrix.

***Response to Amendment***

11. In view of applicant's amendments and arguments, applicant traverses the claim objection of the Office Action mailed on 8 July 2010. Objection is withdrawn.
12. In view of applicant's amendments and arguments, applicant traverses the section 112, first paragraph written description and enablement rejections of the Office Action mailed on 8 July 2010. Rejections are withdrawn.

13. In view of applicant's amendments and arguments, applicant traverses the section 112, second paragraph rejection of the Office Action mailed on 8 July 2010. Rejections are withdrawn except as revised as set forth above for the reasons given above.

14. In view of applicant's amendments and arguments, applicant traverses the section 102/103 rejection over McRae of the Office Action mailed on 8 July 2010. Applicant argues that McRae teaches a welded structure, whereas applicant's articles are diffused interface articles. Applicant has not demonstrated that McRae's articles are precluded from having diffusion zones notwithstanding McRae's characterizations of welded structures. Moreover, applicant's claims are not interpreted as precluding welded structures. Rejections are maintained.

***Allowable Subject Matter***

15. Claims 5-8, 10-12, and 14-16 are allowed.

16. The reviewed prior art does not teach or suggest the subject matter of Claims 5-8, 10-12, and 14-16. Particularly, the reviewed prior art does not teach or suggest forming a cooling element from copper tubes that are coated with electrodeposited nickel which coated tubes are subjected to casting with molten copper or copper alloy in a casting mold, followed by cooling the melt.

***Conclusion***

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

18. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL LA VILLA whose telephone number is (571)272-1539. The examiner can normally be reached on Monday through Friday.
20. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil, can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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21. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/MICHAEL LA VILLA/  
MICHAEL LA VILLA  
Primary Patent Examiner, Art Unit 1784  
13 January 2011**